

## CLAIMS

- 1) Method for manufacturing a bent metal curve element (40) for an endless chain conveying track (200) which comprises a support flange (7) intended to constitute a guide rail for a first side (211a,b) of chain elements (211) forming part of the chain conveying track (200), and a web (8) from which the said flange (7) extends, where the said web (8) is intended to provide torsional rigidity in the bend element (40), which method comprises the following method steps:
- providing (100) a plane metal sheet (1), which has a first end piece (2) which is intended to be shaped into the said flange (7) and a central piece (3) which is intended to constitute the said web (8), where the said first end piece (2) has a set of slots (10) which run from an edge (11) present on the end piece to the said central piece;
  - bending (110) the said first end piece (2) along a first axis of rotation (4) which runs along the said first end piece (2) to form the said flange (7), and
  - bending (120) the said web (8) around a second axis of rotation (41), the said slots being opened or closed while formation of a curved support flange (7) takes place.
- 2) Method for manufacturing a bent metal curve element according to Claim 1, characterized in that the said slots (10) have end surfaces (14, 15) which are designed so as to form support surfaces against one another when bending around the said second axis of rotation (41) takes place, whereby an intended curvature along the metal sheet (1) being obtained.
- 3) Method for manufacturing a bent curve element according to Claim 2, characterized in that said second axis of rotation (41) is located on the side of the central piece (3) towards which said flange (7) faces, and in that, before bending, said slots (10) widen essentially continuously

in the direction towards the said edge (11), whereby said support surfaces (14, 15) extends along essentially the entire length of each slot when bending takes place.

- 5     4)     Method for manufacturing a bent curve element according to Claim 2, characterized in that said second axis of rotation (41) is located on the opposite side of the central piece (3) to that which said flange (7) faces, and in that said slots (10) form projections (12a-c, 13a-c) located on consecutively following flange elements (12, 13) which are  
10     separated by the slots (10) and connected to the said web (8) via web elements (20), where said projections (12a-c, 13a-c) engage in one another by virtue of the slot forming an overlapping area (301) where said end surfaces (14, 15) bear against one another after bending around the said second axis of rotation (41).
- 15     5)     Method for manufacturing a bent curve element according to Claim 4, characterized in that said projections are designed as a pin-shaped projection (304) on a first flange element (13), which extends essentially in the direction of the said first axis of rotation (4) between  
20     projections (305, 306) on a second, consecutively following flange element (12), which extend on either side of the pin-shaped projection (304).
- 25     6)     Method for manufacturing a bent curve element according to Claim 4, characterized in that said projections are designed as hooks (312, 313) which engage in one another after bending around the said second axis of rotation.
- 30     7)     Blank (1) for forming a bent metal curve element (40) for an endless chain conveying track (200) which comprises a support flange (7) intended to constitute a guide rail for a first side (211c) of chain elements (211) forming part of the chain conveying track, and a web

(8) from which the said flange (7) extends, where the said web (8) is intended to provide torsional rigidity in the curve element (40), characterized in that the blank (1) consists of a plane metal sheet, which has a first end piece (2) which is intended to be shaped into the said flange (7) and a central piece (3) which is intended to constitute the said web (8), where said first end piece (2) has a set of slots (10) which run from an edge (11) present on the end piece (2) to the said central piece (3).

8) Blank according to Claim 7, characterized in that the said slots (10) widen essentially continuously in the direction towards the said edge (11), whereby opposite end surfaces (14, 15) present in the slot (10) being arranged so as to form support surfaces resting against one another when bending takes place, which support surfaces (14, 15) extend along essentially the entire length of each slot.

9) Blank according to Claim 7, characterized in that said slots (10) form projections (12a-c, 13a-c) located on consecutively following flange elements (12, 13) separated by the slots (10), where the said projections (12a-c, 13a-c) engage in one another by virtue of the slot (10) forming an overlapping area (301), whereat opposite end surfaces (14, 15) present in the slot being arranged so as to bear against one another after bending around the said second axis of rotation.

10) Blank according to Claim 9, characterized in that the said projections (12a-c, 13a-c) are designed as a pin-shaped projection (304) on a first flange element (13), which extends essentially in the longitudinal direction of the flange between projections (305, 306) on a second, consecutively following flange element, which extend on either side of the pin-shaped projection (304).

- 11) Blank according to Claim 9, characterized in that the said projections (12a-b, 13a-b) are designed as hooks (312, 313) which engage in one another after rotation around the said second axis of rotation (41).
- 5 12) Blank according to any one of Claims 7-11, characterized in that the end piece (2) and the central piece (3) are joined in a transition area which has a fold indication (18).
- 10 13) Blank according to Claim 12, characterized in that the said fold indication (18) has a set of slits (19) which run along the said transition area and are interrupted by web elements (20) which connect the flange (7) to the central piece (3).
- 15 14) Blank according to Claim 13, characterized in that the said slots (10) run up to the said slits (19), and in that at least one web element (20) is located between each pair of slots (10).
- 20 15) Blank according to any one of Claims 7-14, characterized in that the said central piece (3) has cutouts (21) in pairs which delimit fastening plates (22), where the said cutouts (21) in pairs meet one another at an upper and a lower, second web element (23, 24).
- 25 16) Blank according to Claim 15, characterized in that the said upper and lower, second web elements (23, 24) are positioned vertically in relation to the said fold indication.
- 30 17) Blank according to any one of Claims 7-16, characterized in that the said central piece (3) has an upper and a lower longitudinal band-shaped structure (29, 30), which structures are connected by crosspieces (31), and in that the area (32) between two crosspieces is partly covered by cover elements (33) which are connected to at least

one of the said longitudinal band-shaped structures (29, 30) and/or crosspieces (31) by a set of third web elements (34).

- 18) Blank according to any one of Claims 7-17, characterized in that the  
5 plane metal sheet has a second end piece (35) which is intended to be shaped into a second flange (36) which extends from the said web (8) in the same direction as the said first flange (7), where the said second end piece (35) has a set of slots (10) which run from an edge (11) present on the second end piece to the said central piece (3).
- 10 19) Bent metal curve element (40) for an endless chain conveying track (200), which curve element (40) is made from a blank (1) according to any one of Patent Claims 7-18, the curve element (40) comprising a support flange (7) intended to constitute a guide rail for a first side  
15 (211c) of chain elements (211) forming part of the chain conveying track (200), and a web (8) from which the said flange (7) extends, where said web (8) is intended to provide torsional rigidity in the curve element (40), characterized in that said flange (7) has a set of slots (10) which run from an edge (11) present on the end piece to the said  
20 central piece (3).
- 20) Curve unit (50) for an endless chain conveying track (200) comprising a first curve element (40) having a first support surface (7) intended to constitute a guide rail for a first side (211c) of chain elements (211)  
25 forming part of the chain conveying track (200), a second curve element (51) having a second support surface (52) intended to constitute a guide rail (53) for a second side of chain elements forming part of the chain conveying track, and a bracket (56) which supports the said first and second support surfaces in a parallel manner to form  
30 a curved track (55), characterized in that at least the said first curve element (40) consists of a bent metal curve element according to Claim 19, said first support surface (7) consisting of a first support

flange (7) which extends from a web (8) of the bent metal curve element (40), where the first support flange (7) has a set of slots (10) which run from a first edge (11) present on the first flange (7) to the said first web (8).

5

21) Curve unit according to Claim 20, characterized in that the said second curve element consists of a second bent metal curve element according to Claim 19, the second curve element comprising a second support flange (7) intended to constitute a guide rail for a second side (211d) of chain elements (211) forming part of the chain conveying track, and a second web (8) from which the said second support flange (7) extends, where said second support flange (7) has a set of slots (10) which run from an edge (11) present on the second flange to the said second web, where the said first curve element has a convexly curved web with the said first flange facing towards a centre of curvature of the said first web and the second bend element has a web which is mounted parallel to the said first web and also a second flange which faces towards the first flange, the said first and second flanges forming a track for chain elements forming part of the said chain conveying track.

10

15

20

22) Curve unit according to Claim 20, characterized in that the said second curve element (51) comprises a rotatably arranged support surface (52) intended to constitute a guide rail for a second side (211d) of chain elements (211) forming part of the chain conveying track, in that the first curve element (40) has a convexly curved web (8) with the said first flange (7) facing towards a centre of curvature of the said first web, and in that the support surface (52) of the second curve element (51) is mounted coaxially with the said first flange (7), the said first flange (7) and the support surface (52) forming a track (55) for supporting chain elements forming part of the said chain conveying track.

25

30

- 23) Bend unit according to any one of Claims 20-22, characterized in that the said bracket (56) consists of an essentially plane metal plate (57) made from thicker material than the said first bend element, and in that the said plane metal plate (57) bears a set of bent lugs (58, 59) to which the said first and second bend elements (40, 51) are attached.
- 24) Endless chain conveying track (200) comprising a curve unit (50) and a conveying chain (211) which runs through the said curve unit (50), characterized in that the curve unit is designed according to any one of Patent Claims 20-23 and comprises a first metal curve element (40) which comprises a first support flange (7) which constitutes a guide rail for a first side (211c) of chain elements (211) forming part of the conveying chain, and a first web (8) from which the said first support flange (7) extends, where the said first web is intended to provide torsional rigidity in the first bend element, a second curve element (51) which has a second support surface (52) which constitutes a guide rail (53) for a second side of chain elements forming part of the conveying chain, and a bracket (56) which supports the said first and second bend elements.